Mr. W.C. Campbell, III
Duke Energy Vermillion, L.L.C.
400 South Tryon Street, Suite 1800
Charlotte, N.C. 28202

Re: **165-11417**
First Minor Permit Revision to
PSD 165-10476-00022

Dear Mr. Campbell:

Vermillion Generating Station was issued a New Source Construction (Prevention of Significant Deterioration) and Minor Source Operating permit on July 1, 1999 for a merchant power plant. A letter requesting a revision to this permit was received on October 8, 1999. Pursuant to the provisions of 326 IAC 2-6.1-6 a minor permit revision to this permit is hereby approved as described in the attached Technical Support Document.

The minor permit revision letter requested that the fuel usage limits be corrected to the appropriate values. It was determined by the source that there was an error in the permit application's fuel usage calculations for the two (2) emergency generators and the one (1) emergency fire pump. These calculated errors yielded fuel usage limits smaller than what the source should have received for the units. The changes are as follows (changes are crosses out and bolded for emphasis):

1. Condition D.1.9 is revised to reflect the correct fuel usage rate limit for the two (2) emergency generators (changes are bolded and crossed out for emphasis):

D.1.9 Sulfur Dioxide (SO_2) - Best Available Control Technology [326 IAC 2-2-3] for the two (2) emergency diesel generators

Pursuant to 326 IAC 2-2-3 (PSD - Control Technology Review Requirements), the source shall comply to the following BACT:

(1) Perform good combustion practices;

(2) The sulfur content of the diesel fuel used by the generators shall not exceed 0.05 percent by weight; and

(3) The total input of the diesel fuel to the generators shall be limited to ~~528~~ **3,014.7** gallons per day and shall not exceed a total of ~~44,000~~ **125,600** gallons per twelve consecutive month period, rolled on a monthly basis. This usage limitation is equivalent to 0.40 tons of SO_2 per year and 27.5 tons of NOx per year.

2. Condition D.1.12 is revised to reflect the correct fuel usage rate limit for the emergency fire pump (changes are bolded and crossed out for emphasis):

D.1.12 Best Available Control Technology [326 IAC 2-2-3] for the emergency diesel fire pump

Pursuant to 326 IAC 2-2-3 (PSD - Control Technology Review Requirements), the source

shall comply to the following BACT:

(1) Perform good combustion practices;

(2) The sulfur content of the diesel fuel used by the fire pump shall not exceed 0.05 percent by weight; and

(3) The total input of the diesel fuel to the fire pump shall be limited to ~~2,050~~ **5,850** gallons per twelve consecutive month period, rolled on a monthly basis.

3. The Quarterly Report forms for the generators and fire pump, located on pages 24 and 25 of the permit, are revised to reflect the corrected fuel usage limits as shown above.

Pursuant to 326 IAC 2-6.1-6, 326 IAC 2-2 and 40 CFR Part 52.21, the New Source Construction (Prevention of Significant Deterioration) and Minor Source Operating permit shall be revised by incorporating the minor permit revision into the permit. All other conditions of the permit shall remain unchanged and in effect. Pursuant to IC 13-15-5-3, this minor permit revision becomes effective upon its issuance. Please attach a copy of this permit revision which includes this letter, the attached operating conditions applicable to these emission units, and revised permit pages to the front of the original permit.

This decision is subject to the Indiana Administrative Orders and Procedures Act - IC 4-21.5-3-5. If you have any questions on this matter, please contact Nysa L. James, at OAM, 100 North Senate Avenue, P.O. Box 6015, Indianapolis, Indiana, 46206-6015, or call (800) 451-6027, press 0 and ask for Nysa L. James or extension (3-6875), or dial (317) 233-6875.

Sincerely,

Paul Dubenetzky, Chief
Permits Branch
Office of Air Management

Attachments
NLJ
cc: File - Vermillion County
U.S. EPA, Region V
Vermillion County Health Department
Air Compliance Section Inspector - Marc Goldman
Compliance Data Section - Karen Nowak
Administrative and Development - Janet Mobley
Technical Support and Modeling - Michele Boner

CONSTRUCTION PERMIT
PREVENTION OF SIGNIFICANT DETERIORATION (PSD)
OFFICE OF AIR MANAGEMENT

Vermillion Generating Station
CR 300 N and SR 63
Eugene Township, Indiana 47928

(herein known as the Permittee) is hereby authorized to construct and operate subject to the conditions contained herein, the emission units described in Section A (Source Summary) of this permit.

This permit is issued to the above mentioned company under the provisions of 326 IAC 2-1.1, 326 IAC 2-5.1, 326 IAC 2-6.1 and 40 CFR 52.780, with conditions listed on the attached pages.

This permit is also issued under the provisions of 326 IAC 2-2, 40 CFR 52.21, and 40 CFR 52.124 (Prevention of Significant Deterioration), with conditions listed on the attached pages.

Construction Permit No.: PSD-165-10476-00022	
Issued by: Paul Dubenetzky, Branch Chief Office of Air Management	Issuance Date: July 1, 1999
First Minor Permit Revision: 165-11417-00022	Pages Affected: 15, 24 and 25
Issued by: Paul Dubenetzky, Branch Chief Office of Air Management	Issuance Date:

(2) The sulfur content of the diesel fuel used by the combustion turbines shall not exceed 0.05 percent by weight; and

(3) Perform good combustion practices.

D.1.8 Nitrogen Oxides (NOx) - Best Available Control Technology [326 IAC 2-2-3] for the two (2) emergency diesel generators

Pursuant to 326 IAC 2-2-3 (PSD - Control Technology Review Requirements), the source shall perform good combustion practices as BACT.

D.1.9 Sulfur Dioxide (SO_2) - Best Available Control Technology [326 IAC 2-2-3] for the two (2) emergency diesel generators

Pursuant to 326 IAC 2-2-3 (PSD - Control Technology Review Requirements), the source shall comply to the following BACT:

(1) Perform good combustion practices;

(2) The sulfur content of the diesel fuel used by the generators shall not exceed 0.05 percent by weight; and

(3) The total input of the diesel fuel to the generators shall be limited to 3,014.7 gallons per day and shall not exceed a total of 125,600 gallons per twelve consecutive month period, rolled on a monthly basis. This usage limitation is equivalent to 0.40 tons of SO_2 per year and 27.5 tons of NOx per year.

D.1.10 Carbon Monoxide (CO) - Best Available Control Technology [326 IAC 2-2-3] for the two (2) emergency diesel generators

Pursuant to 326 IAC 2-2-3 (PSD - Control Technology Review Requirements), the source shall perform good combustion practices as BACT.

D.1.11 Particulate Matter (PM/PM_{10}) - Best Available Control Technology [326 IAC 2-2-3] for the two (2) emergency diesel generators

Pursuant to 326 IAC 2-2-3 (PSD - Control Technology Review Requirements), the source shall comply to the following BACT:

(1) The limit of diesel fuel established under the SO_2 BACT analysis; and

(2) Perform good combustion practices.

D.1.12 Best Available Control Technology [326 IAC 2-2-3] for the emergency diesel fire pump

Pursuant to 326 IAC 2-2-3 (PSD - Control Technology Review Requirements), the source shall comply to the following BACT:

(1) Perform good combustion practices;

(2) The sulfur content of the diesel fuel used by the fire pump shall not exceed 0.05 percent by weight; and

(3) The total input of the diesel fuel to the fire pump shall be limited to 5,850 gallons per twelve consecutive month period, rolled on a monthly basis.

Indiana Department of Environmental Management
Office of Air Management
Compliance Data Section

Quarterly Report

Company Name: Duke Energy Vermillion, LLC
Location: CR 300 N and SR 63, Eugene Township, Indiana 47928

Permit No.: 165-10476-00022
Source: Two (2) emergency diesel generators
Pollutant: SO_2
Limit: 3,014.7 gallons per day and 125,600 gallons per twelve (12) consecutive month period
,

Year: _____

Month	Diesel Fuel Oil Usage (gallons/day)	Diesel Fuel Oil Usage (gallons/month)	Diesel Fuel Oil Usage for previous month(s) (gallons)	Diesel Fuel Oil Usage for twelve month period (gallons)

9 No deviation occurred in this quarter.

9 Deviation/s occurred in this quarter.
Deviation has been reported on: _____

Submitted by: _____
Title / Position: _____
Signature: _____
Date: _____
Phone: _____

Indiana Department of Environmental Management
Office of Air Management
Compliance Data Section

Quarterly Report

Company Name: Duke Energy Vermillion, LLC
Location: CR 300 N and SR 63, Eugene Township, Indiana 47928
Permit No.: 165-10476-00022
Source: One (1) emergency diesel fire pump
Pollutant: SO_2
Limit: 5,850 gallons per twelve (12) consecutive month period

Year: _____

Month	Diesel Fuel Oil Usage (gallons/month)	Diesel Fuel Oil Usage for previous month(s) (gallons)	Diesel Fuel Oil Usage for twelve month period (gallons)

9 No deviation occurred in this quarter.

9 Deviation/s occurred in this quarter.
Deviation has been reported on: _____

Submitted by: _____
Title / Position: _____
Signature: _____
Date: _____
Phone: _____

CONSTRUCTION PERMIT
PREVENTION OF SIGNIFICANT DETERIORATION (PSD)
OFFICE OF AIR MANAGEMENT

Vermillion Generating Station
CR 300 N and SR 63
Eugene Township, Indiana 47928

(herein known as the Permittee) is hereby authorized to construct and operate subject to the conditions contained herein, the emission units described in Section A (Source Summary) of this permit.

This permit is issued to the above mentioned company under the provisions of 326 IAC 2-1.1, 326 IAC 2-5.1, 326 IAC 2-6.1 and 40 CFR 52.780, with conditions listed on the attached pages.

This permit is also issued under the provisions of 326 IAC 2-2, 40 CFR 52.21, and 40 CFR 52.124 (Prevention of Significant Deterioration), with conditions listed on the attached pages.

Construction Permit No.: PSD-165-10476-00022	
Issued by: Paul Dubenetzky, Branch Chief Office of Air Management	Issuance Date: July 1, 1999
First Minor Permit Revision: 165-11417-00022	Pages Affected: 15, 24 and 25
Issued by: Paul Dubenetzky, Branch Chief Office of Air Management	Issuance Date:

(2) The sulfur content of the diesel fuel used by the combustion turbines shall not exceed 0.05 percent by weight; and

(3) Perform good combustion practices.

D.1.8 Nitrogen Oxides (NOx) - Best Available Control Technology [326 IAC 2-2-3] for the two (2) emergency diesel generators

Pursuant to 326 IAC 2-2-3 (PSD - Control Technology Review Requirements), the source shall perform good combustion practices as BACT.

D.1.9 Sulfur Dioxide (SO_2) - Best Available Control Technology [326 IAC 2-2-3] for the two (2) emergency diesel generators

Pursuant to 326 IAC 2-2-3 (PSD - Control Technology Review Requirements), the source shall comply to the following BACT:

(1) Perform good combustion practices;

(2) The sulfur content of the diesel fuel used by the generators shall not exceed 0.05 percent by weight; and

(3) The total input of the diesel fuel to the generators shall be limited to 3,014.7 gallons per day and shall not exceed a total of 125,600 gallons per twelve consecutive month period, rolled on a monthly basis. This usage limitation is equivalent to 0.40 tons of SO_2 per year and 27.5 tons of NOx per year.

D.1.10 Carbon Monoxide (CO) - Best Available Control Technology [326 IAC 2-2-3] for the two (2) emergency diesel generators

Pursuant to 326 IAC 2-2-3 (PSD - Control Technology Review Requirements), the source shall perform good combustion practices as BACT.

D.1.11 Particulate Matter (PM/PM_{10}) - Best Available Control Technology [326 IAC 2-2-3] for the two (2) emergency diesel generators

Pursuant to 326 IAC 2-2-3 (PSD - Control Technology Review Requirements), the source shall comply to the following BACT:

(1) The limit of diesel fuel established under the SO_2 BACT analysis; and

(2) Perform good combustion practices.

D.1.12 Best Available Control Technology [326 IAC 2-2-3] for the emergency diesel fire pump

Pursuant to 326 IAC 2-2-3 (PSD - Control Technology Review Requirements), the source shall comply to the following BACT:

(1) Perform good combustion practices;

(2) The sulfur content of the diesel fuel used by the fire pump shall not exceed 0.05 percent by weight; and

(3) The total input of the diesel fuel to the fire pump shall be limited to 5,850 gallons per twelve consecutive month period, rolled on a monthly basis.

Indiana Department of Environmental Management
Office of Air Management
Compliance Data Section

Quarterly Report

Company Name: Duke Energy Vermillion, LLC
Location: CR 300 N and SR 63, Eugene Township, Indiana 47928

Permit No.: 165-10476-00022
Source: Two (2) emergency diesel generators
Pollutant: SO_2
Limit: 3,014.7 gallons per day and 125,600 gallons per twelve (12) consecutive month period
,

Year: _____

Month	Diesel Fuel Oil Usage (gallons/day)	Diesel Fuel Oil Usage (gallons/month)	Diesel Fuel Oil Usage for previous month(s) (gallons)	Diesel Fuel Oil Usage for twelve month period (gallons)

9 No deviation occurred in this quarter.

9 Deviation/s occurred in this quarter.
Deviation has been reported on: _____

Submitted by: _____
Title / Position: _____
Signature: _____
Date: _____
Phone: _____

Indiana Department of Environmental Management
Office of Air Management
Compliance Data Section

Quarterly Report

Company Name: Duke Energy Vermillion, LLC
Location: CR 300 N and SR 63, Eugene Township, Indiana 47928
Permit No.: 165-10476-00022
Source: One (1) emergency diesel fire pump
Pollutant: SO_2
Limit: 5,850 gallons per twelve (12) consecutive month period

Year: _____

Month	Diesel Fuel Oil Usage (gallons/month)	Diesel Fuel Oil Usage for previous month(s) (gallons)	Diesel Fuel Oil Usage for twelve month period (gallons)

9 No deviation occurred in this quarter.

9 Deviation/s occurred in this quarter.
Deviation has been reported on: _____

Submitted by: _____
Title / Position: _____
Signature: _____
Date: _____
Phone: _____

Indiana Department of Environmental Management
Office of Air Management

Technical Support Document (TSD) for a Minor Permit Revision to a New Source Construction (Prevention of Significant Deterioration) and a Minor Source Operating Permit

Source Background and Description

Source Name:	Vermillion Generating Station
Source Location:	CR 300 N and SR63, Eugene Township, IN 47928
County:	Vermillion
SIC Code:	4911
Operation Permit No.:	PSD-165-10476-00022
Operation Permit Issuance Date:	July 1, 1999
Minor Permit Revision No.:	165-11417-00022
Permit Reviewer:	Nysa L. James

The Office of Air Management (OAM) has reviewed a permit revision application from the Vermillion Generating Station relating to the operation of a merchant power plant.

History

On October 8, 1999, the Vermillion Generating Station submitted an application to the OAM requesting a correction to an error in the fuel usage calculations for the two (2) emergency generators and the one (1) emergency fire pump. These calculated errors yielded fuel usage limits smaller than what the source should have received for the two (2) generators and fire pump. The Vermillion Generating Station was issued a New Source Construction (Prevention of Significant Deterioration) and Minor Source Operating permit on July 1, 1999. Corrections of the fuel usage rate limits do not cause an increase in the potential to emit. The corrections do however, cause a relaxation in the permitted fuel usage limitations and therefore these corrections are considered a minor permit revision under 326 IAC 2-6.

Existing Approvals

The source was issued a New Source Construction (Prevention of Significant Deterioration) and Minor Source Operating permit on July 1, 1999.

Changes Proposed

The Office of Air Management (OAM) has reviewed a letter from the Vermillion Generating Station relating to changes of their New Source Construction (Prevention of Significant Deterioration) and Minor Source Operating permit. A summary of the requested changes and corresponding responses are as follows (changes are bolded and crossed out for emphasis):

1. Condition D.1.9 is revised to reflect the correct usage rate limit for the two (2) emergency generators (changes are bolded and crossed out for emphasis):
   D.1.9 Sulfur Dioxide (SO_2) - Best Available Control Technology [326 IAC 2-2-3] for the two (2) emergency diesel generators

Pursuant to 326 IAC 2-2-3 (PSD - Control Technology Review Requirements), the source shall comply to the following BACT:

(1) Perform good combustion practices;

(2) The sulfur content of the diesel fuel used by the generators shall not exceed 0.05 percent by weight; and

(3) The total input of the diesel fuel to the generators shall be limited to ~~528~~ **3,014.7** gallons per day and shall not exceed a total of ~~44,000~~ **125,600** gallons per twelve consecutive month period, rolled on a monthly basis. This usage limitation is equivalent to 0.40 tons of SO_2 per year and 27.5 tons of NOx per year.

2. Condition D.1.12 is revised to reflect the correct usage rate limit for the emergency fire pump (changes are bolded and crossed out for emphasis):

D.1.12 Best Available Control Technology [326 IAC 2-2-3] for the emergency diesel fire pump

Pursuant to 326 IAC 2-2-3 (PSD - Control Technology Review Requirements), the source shall comply to the following BACT:

(1) Perform good combustion practices;

(2) The sulfur content of the diesel fuel used by the fire pump shall not exceed 0.05 percent by weight; and

(3) The total input of the diesel fuel to the fire pump shall be limited to ~~2,050~~ **5,850** gallons per twelve consecutive month period, rolled on a monthly basis.

3. The Quarterly Report forms for the generators and fire pump, located on pages 24 and 25 of the permit, are revised to reflect the corrected fuel usage limits as shown above.

Stack Summary

Stack ID	Operation	Height (feet)	Diameter (feet)	Flow Rate (acfm)	Temperature (^{0}F)
1-8	Eight (8) turbines	90	14.75	1,648,810	929
9-10	diesel generator	16	0.833	12,530	998
11	diesel fire pump	4	0.416	1,718	985
12-15	diesel fuel storage tanks	general vent	--	--	--

Recommendation

The staff recommends to the Commissioner that the Minor Permit Revision be approved. This recommendation is based on the following facts and conditions:

Unless otherwise stated, information used in this review was derived from the application and additional information submitted by the applicant.

An application for the purposes of this review was received on October 8, 1999.

Emission Calculations

The emission calculations have not changed from the original New Source Construction (Prevention of Significant Deterioration) and Minor Source Operating permit. The fuel usage limits calculated in the spreadsheets for the two (2) generators and fire pump were correct, but the OAM used the fuel usage rates supplied from the source in the permit application. The original emission calculations for the units are attached in Appendix A (two (2) pages).

Potential To Emit

The potential to emit has not changed from the original New Source Construction (Prevention of Significant Deterioration) and Minor Source Operating permit.

The fuel usage rate was mis-calculated in the permit application. The fuel usage rate is calculated by the following equation:

(MMbtu/hr; heat input capacity) / (MMbtu/gal; heat content) = gal/hr;

In the case of the two (2) emergency generators and fire pump, the fuel usage rate was calculated by multiplying the heat input capacity times the heat content. This was incorrect and yielded smaller fuel usage rate limits than what the source should have been permitted in Conditions D.1.9 and D.1.12.

County Attainment Status

The source is located in Vermillion County.

Pollutant	Status
PM-10	attainment
SO_2	attainment
NO_2	attainment
Ozone	attainment
CO	attainment
Lead	attainment

(a) Volatile organic compounds (VOC) and oxides of nitrogen (NOx) are precursors for the formation of ozone. Therefore, VOC and NO_x emissions are considered when evaluating the rule applicability relating to the ozone standards. Vermillion County has been designated as attainment or unclassifiable for ozone.

Federal Rule Applicability

There are no changes in Federal rule applicability from the original New Source Construction (Prevention of Significant Deterioration) and Minor Source Operating permit.

State Rule Applicability

There are no changes in State rule applicability from the original New Source Construction (Prevention of Significant Deterioration) and Minor Source Operating permit.

Compliance Requirements

There are no changes in Compliance Monitoring from the original New Source Construction (Prevention of Significant Deterioration) and Minor Source Operating permit.

Air Toxic Emissions

There are no increase in air toxic emissions from the original New Source Construction (Prevention of Significant Deterioration) and Minor Source Operating permit.

Conclusion

The operation of this merchant power plant shall be subject to the conditions of the attached proposed Minor Permit Revision No. 165-11417-00022.